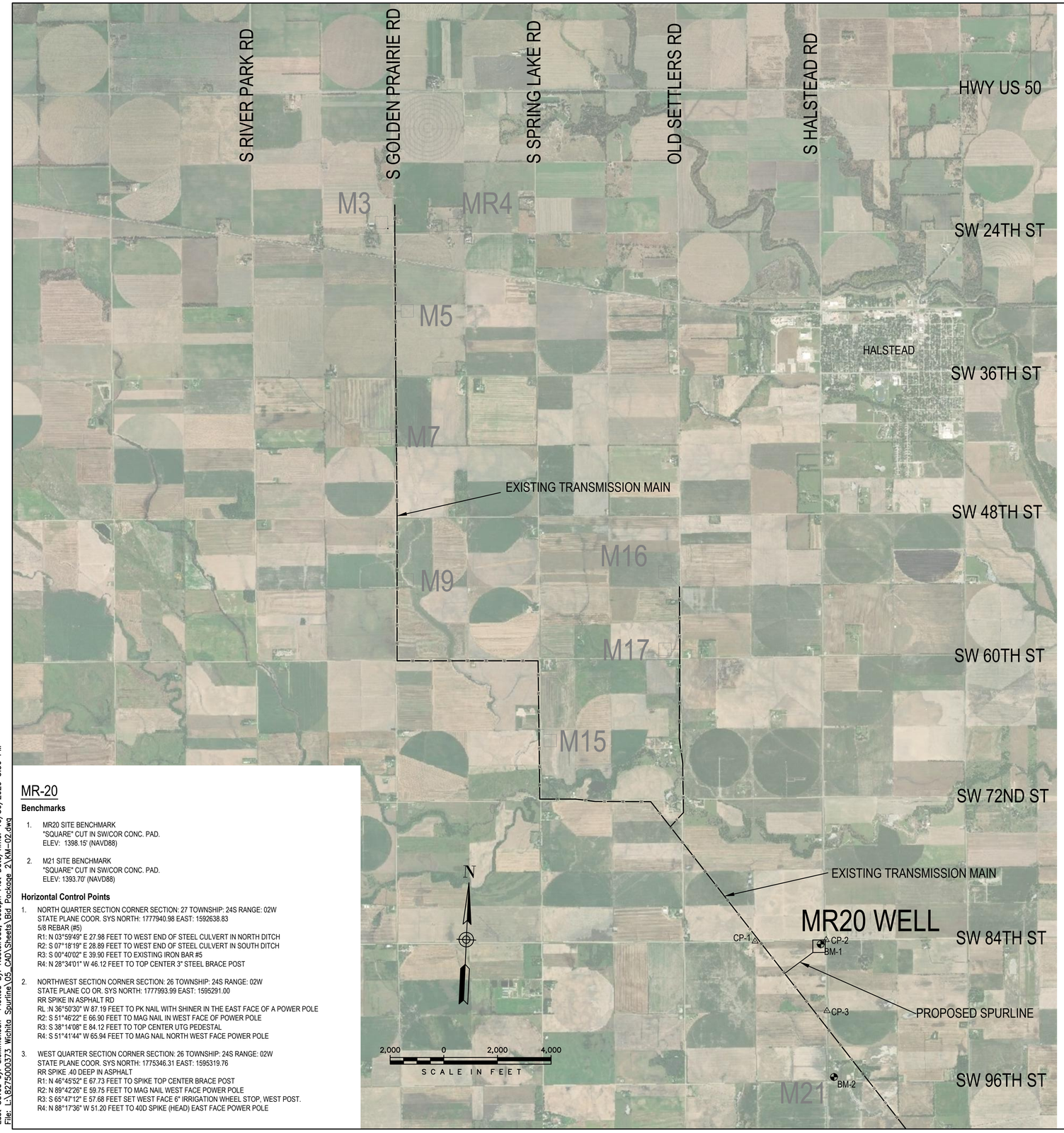

MR-20

Benchmarks

1. MR20 SITE BENCHMARK
   "SQUARE" CUT IN SW/COR CONC. PAD.
   ELEV: 1398.15' (NAVD88)

2. M21 SITE BENCHMARK
   "SQUARE" CUT IN SW/COR CONC. PAD.
   ELEV: 1393.70' (NAVD88)

Horizontal Control Points

1. NORTH QUARTER SECTION CORNER SECTION: 27 TOWNSHIP: 24S RANGE: 02W
   STATE PLANE COOR. SYS NORTH: 1777940.98 EAST: 1592638.83
   5/8 REBAR (#5)
   R1: N 03°59'49" E 27.98 FEET TO WEST END OF STEEL CULVERT IN NORTH DITCH
   R2: S 07°18'19" E 28.89 FEET TO WEST END OF STEEL CULVERT IN SOUTH DITCH
   R3: S 00°40'02" E 39.90 FEET TO EXISTING IRON BAR #5
   R4: N 28°34'01" W 46.12 FEET TO TOP CENTER 3" STEEL BRACE POST

2. NORTHWEST SECTION CORNER SECTION: 26 TOWNSHIP: 24S RANGE: 02W
   STATE PLANE CO OR. SYS NORTH: 1777993.99 EAST: 1595291.00
   RR SPIKE IN ASPHALT RD
   RL :N 36°50'30" W 87.19 FEET TO PK NAIL WITH SHINER IN THE EAST FACE OF A POWER POLE
   R2: S 51°46'22" E 66.90 FEET TO MAG NAIL IN WEST FACE OF POWER POLE
   R3: S 38°14'08" E 84.12 FEET TO TOP CENTER UTG PEDESTAL
   R4: S 51°41'44" W 65.94 FEET TO MAG NAIL NORTH WEST FACE POWER POLE

3. WEST QUARTER SECTION CORNER SECTION: 26 TOWNSHIP: 24S RANGE: 02W
   STATE PLANE COOR. SYS NORTH: 1775346.31 EAST: 1595319.76
   RR SPIKE .40 DEEP IN ASPHALT
   R1: N 46°45'52" E 67.73 FEET TO SPIKE TOP CENTER BRACE POST
   R2: N 89°42'26" E 59.75 FEET TO MAG NAIL WEST FACE POWER POLE
   R3: S 65°47'12" E 57.68 FEET SET WEST FACE 6" IRRIGATION WHEEL STOP, WEST POST.
   R4: N 88°17'36" W 51.20 FEET TO 40D SPIKE (HEAD) EAST FACE POWER POLE

GENERAL NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS. ALL CONSTRUCTION SHALL BE COMPLETED FOLLOWING CURRENT CITY STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

2. CONTRACTOR WILL BE REQUIRED TO PROVIDE NOTICE TO UTILITY COMPANIES A MINIMUM OF SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION, AS FOLLOWS:

   KANSAS ONE-CALL 687-2470

   THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY:

AT&T	1-800-246-8464
KANSAS GAS SERVICE	1-888-482-4950
EVERGY	1-800-544-4857
KANSAS FIBER NETWORK	1-913-901-7021
JAYHAWK PIPELINE	1-620-755-1160
SEDGWICK COUNTY ROAD & BRIDGE	1-316-660-1777
HARVEY COUNTY ROAD & BRIDGE	1-316-283-1890

3. THE CONTRACTOR SHALL CONTACT THE FOLLOWING AT LEAST 10 DAYS PRIOR TO BEGINNING CONSTRUCTION TO ADVISE THEM OF THE INTENDED WORK AND OF HIS PROPOSED SCHEDULE.

   SHAWN MALONEY 1-316-269-4732
   WICHITA ASR
   WELLFIELD MANAGER

4. EASEMENTS AND RIGHT-OF-WAY PROVIDED BY THE OWNER FOR THE PROJECT ARE SHOWN IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACQUISITION OF ANY ADDITIONAL TEMPORARY CONSTRUCTION EASEMENTS OR RIGHT-OF-WAY THAT HE DESIRES TO USE COMPLETING THE WORK.

5. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY ABUTTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS' NOTICE PRIOR TO START OF CONSTRUCTION.

6. UTILITY SERVICE LINES, POLES, ETC. ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR OR UNLESS THE PLANS SPECIFICALLY IDENTIFY A UTILITY TO BE ADJUSTED BY ITS OWNER DURING CONSTRUCTION. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND, PROTECT FROM DAMAGE, AND SUPPORT EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY OR EASEMENT WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.

7. IT SHOULD BE NOTED THAT OTHER BURIED LINES AND CABLE MAY EXIST WHICH ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING TRENCHING OPERATIONS TO AVOID DAMAGING THESE LINES AND CABLES. ANY UTILITIES DAMAGED SHALL BE REPLACED OR REPAIRED IMMEDIATELY AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL PROTECT FROM DAMAGE AND SUPPORT EXISTING UTILITIES THROUGH CONSTRUCTION AS APPROVED BY THE UTILITY OWNER AND THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

8. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE, AND SITE LOCATION. LOCATIONS, IN THE OPINION OF THE ENGINEER, THAT WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN WILL REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS. OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WILL REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.

9. TREES AND SHRUBS IN PUBLIC RIGHT-OF-WAY OR EASEMENT WHICH ARE IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR WITH THE CITY ENGINEER'S APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE.

10. THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, AND BANKS TO THEIR ORIGINAL SLOPES AND GRADES. WHERE EXISTING ENTRANCE PIPE, DRAINAGE PIPE, SIGNS, FENCES, ETC., CONFLICT WITH THE PROPOSED WORK HEREIN, THEY SHALL BE REMOVED AND REPLACED OR RESET. THE REPLACEMENT OF ALL THE AFOREMENTIONED ITEMS, INCLUDING SEEDING, FERTILIZER AND MULCHING SHALL BE CONSIDERED SUBSIDIARY TO "SITE CLEARING AND RESTORATION".

11. POSITIVE DRAINAGE SHALL BE PROVIDED FOR ALL AREAS ON OR NEAR SPOIL AREAS. NATURAL DRAINAGE WAYS SHALL BE MAINTAINED.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERLY IRONS. THE CONTRACTOR WILL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.

13. THE CONTRACTOR SHALL CONTAIN HIS OPERATIONS TO PERMIT TRAFFIC THROUGH AND ACROSS CONSTRUCTION AT EXISTING ROADWAYS AL ALL TIMES. THE CONTRACTOR SHALL ERECT WARNING SIGNS, FLASHING LIGHTS, AND BARRICADES IN COMPLIANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES TO ENSURE SAFETY.

14. WATERLINES SHALL HAVE A MINIMUM DEPTH OF BURY OF 48 INCHES UNLESS SHOWN OTHERWISE.

15. THE ASR AND WELL FIELD MANAGEMENT STAFF SHALL FIELD LOCATE WATER VALVES ONE TIME DURING CONSTRUCTION WHEN REQUESTED BY THE CONTRACTOR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PRESERVE SUCH FIELD LOCATIONS DURING THE CONSTRUCTION PROCESS. WATER VALVES, VALVE BOXES OR OTHER STRUCTURES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY CONTRACTOR AT HIS OWN EXPENSE.

16. AIR RELEASE VAULTS ARE BASED ON THE TOP ELEVATION OF THE PROPOSED WATER MAIN AND THE APPROXIMATE PROPOSED GROUND ELEVATION AT THE LOCATION OF THE VAULT. THE CONTRACTOR SHALL VERIFY THESE ELEVATIONS PRIOR TO INSTALLING VAULTS. ANY MODIFICATIONS REQUIRED TO THE VAULT DIMENSIONS DUE TO THE CONTRACTOR'S FIELD ADJUSTMENTS TO THE WATER MAIN PROFILE SHALL BE MADE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY. PROPOSED ADJUSTMENTS MUST BE APPROVED BY THE RESIDENT INSPECTOR PRIOR TO CONSTRUCTION.

17. CONCRETE THRUST BLOCKING SHALL BE INSTALLED AT ALL HORIZONTAL AND VERTICAL DEFLECTIONS OF 11 ¼ DEGREES OR MORE, UNLESS THE PLANS SPECIFICALLY CALL FOR THE USE OF RESTRAINED JOINT (RJ) PIPE OTHERWISE APPROVED BY THE ENGINEER. THRUST BLOCKING AND RESTRAINED JOINT PIPE SHALL BE SIZED AS SHOWN IN THE DETAILS. COSTS FOR CONCRETE THRUST BLOCKING AND/OR RESTRAINED JOINT PIPING METHODS SHALL BE CONSIDERED SUBSIDIARY TO THE UNIT PRICE FOR PIPE IN PLACE. THE CONTRACTOR MAY UTILIZE RESTRAINED JOINTS FOR THRUST RESTRAINT IF RESTRAINED JOINT METHOD IS ACCEPTABLE BY THE ENGINEER.

18. THE HYDROSTATIC TEST PRESSURE FOR THE NEWLY CONSTRUCTED SPURLINE SHALL BE 150 PSI.

    THE CONTRACTOR WILL BE REQUIRED TO DISINFECT THE PIPELINE IN ACCORDANCE WITH KDHE MINIMUM DESIGN STANDARDS, APPENDIX D UTILIZING THE "CONTINUOUS METHOD" OF INJECTING CONCENTRATED CHLORINE SOLUTION TO ACHIEVE A DESIRED 25 MG/L CHLORINE RESIDUAL IN THE PIPELINE AND ALLOWED TO STAND IN THE PIPELINE FOR A 24 HOUR PERIOD. AT THE END OF THE 24-HOUR PERIOD, IF THE CHLORINE RESIDUAL IN THE PIPELINE IS NOT LESS THAN 10 MG/L, THE PIPELINE WILL BE CONSIDERED DISINFECTED AND MAY BE FLUSHED AND PUT INTO SERVICE. CONNECTION TO THE EXISTING PIPELINE SHALL BE MADE USING CLEAN, SWABBED PIPE AND FITTINGS. NO BACTERIOLOGICAL TESTING WILL BE REQUIRED.

19. THE CONTRACTOR SHALL LAY A TRACER WIRE AND SET TEST STATIONS ALONG ALL WATER PIPE INSTALLED IN ACCORDANCE WITH CITY SPECIFICATIONS AND TRACER WIRE DETAIL ON DETAIL SHEET WL -101, COST IS SUBSIDIARY TO PIPE INSTALLATION.

    "1" CONDULET STYLE TRACER WIRE TEST STATIONS SHALL BE INSTALLED AT THE WARNING SIGN LOCATIONS (STATION 25+89) AND LOCATED WITHIN 2' OF THE WARNING SIGNPOST.

20. THE CONTRACTOR SHALL PROVIDE MATERIALS FOR TEMPORARY BLOWOFF OF WATERLINES. CONNECTIONS TO THE EXISTING WATERLINES(S) SHALL BE MADE WITH CLEAN, SWABBED PIPE AND FLUSHED UPON COMPLETION OF TIE-INS.

21. REQUESTS FOR SHORT TERM WATER SUPPLY INTERRUPTIONS SHALL BE MADE TO THE ASR AND WELLFIELD MANAGEMENT STAFF AND WILL BE SUBJECT TO THEIR APPROVAL.

22. THE CONTRACTOR MUST SCHEDULE THE CONNECTIONS TO THE EXISTING TRANSMISSION MAIN WITH THE ASR AND WELLFIELD MANAGEMENT STAFF SUCH THAT THERE IS A MINIMUM DISRUPTION OF SERVICE. CONNECTIONS SHALL BE MADE DURING PERIODS OF LOW WATER DEMAND. THE CONTRACTOR SHALL SUBMIT HIS PROPOSED SCHEDULE FOR COMPLETING WORK FOR ASR AND WELLFIELD MANAGEMENT STAFF APPROVAL OF LEAST 10 DAYS PRIOR TO BEGINNING CONSTRUCTION.

23. DEFLECTIONS AT PIPE JOINT OR COUPLINGS SHALL NOT EXCEED THE PIPE MANUFACTURES RECOMMENDED MAXIMUM. WHERE DEFLECTIONS ARE GREATER THAN THE MAXIMUM ALLOWED, THE CONTRACTOR SHALL UTILIZE FITTINGS.

24. ANY EXISTING JOINT EXPOSED DURING EXCAVATION SHALL BE REPLACED IF WITHIN FOUR FEET OF PROPOSED JOINT.

25. IN ALL AREAS AFFECTED BY THE PROPOSED WATERLINE IMPROVEMENTS, THE CONTRACTOR SHALL STRIP TOPSOIL TO A DEPTH OF 12 INCHES AND KEEP FREE FROM ROOTS, STONES, AND OTHER UNDESIRABLE MATERIALS. ALL TOPSOIL SHALL BE STOCKPILED ON SITE AND SHALL BE RESTORED AND GRADE UPON SUBSTANTIAL COMPLETION. ALL SUCH WORK SHALL BE CONSIDERED SUBSIDIARY TO "SITE CLEARING AND RESTORATION".

26. ALL BACKFILL FOR OPEN-TRENCH CONSTRUCTION SHALL BE BASED ON CITY OF WICHITA STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

27. ALL GRASSED AREAS DISTURBED BY CONSTRUCTION OF THE PROPOSED WATER LINE SHALL BE REPLANTED WITH BUFFALO GRASS, FERTILIZED, AND MULCHED IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD SPECIFICATIONS.

28. AT LEAST 2 WEEKS PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT, FOR THE ENGINEER'S APPROVAL, A CONSTRUCTION SEQUENCE/SCHEDULE.

29. CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH OPENINGS OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.

30. THE CONTRACTOR SHALL NOT START WORK ON THE PROJECT UNTIL THE PROJECT INSPECTOR IS ASSIGNED AND IS PRESENT ON THE SITE. ANY WORK DONE WITHOUT INSPECTION WILL BE REQUIRED TO BE UNCOVERED FOR INSPECTION.

31. CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY FENCING AT THE EASEMENT LINE TO CONTAIN LIVESTOCK DURING CONSTRUCTION ACTIVITIES. UPON 10 DAY NOTIFICATION OF THE LANDOWNER, THE CONTRACTOR MAY REMOVE AND RESET EXISTING FENCES AS DEEMED NECESSARY FOR CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE FENCE OWNER AT LEAST 72 HOURS PRIOR TO REMOVAL. ALL COSTS ASSOCIATED WITH THE REMOVAL AND REPLACEMENT OF FENCES AND ANY TEMPORARY FENCING SHALL BE SUBSIDIARY TO THE LUMP SUM PRICE FOR "SITE CLEARING AND SITE RESTORATION".

32. THE CONTRACTOR SHALL MAINTAIN ALL ROAD SURFACES DISTURBED DURING CONSTRUCTION TO A CONDITION ACCEPTABLE TO THE ENGINEER. ADDITIONAL AGGREGATE, BASE MATERIAL, SURFACE MATERIAL, COMPACTION, EARTHWORK, GRADING, ETC. REQUIRED FOR THIS MAINTENANCE SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.

33. ALL ELEVATIONS SHOWN ARE NAVD 88.

34. ALL AREAS DISTURBED DURING CONSTRUCTION THAT WILL NOT BE UNDER PROPOSED PAVEMENT SHALL BE RESTORED TO MATCH EXISTING CONDITIONS.

35. OPENING AND CLOSING OF WATER VALVES SHALL BE DONE SLOWLY TO PREVENT DAMAGE TO THE WATER DISTRIBUTION SYSTEM FROM WATER HAMMER. ALL VALVES CLOSED BY THE CONTRACTOR MUST BE REOPENED AS NEW CONSTRUCTION PERMITS. THE PROJECT INSPECTOR MUST ASCERTAIN THAT ANY VALVE CLOSED BY THE CONTRACTOR IS REOPENED. THE CONTRACTOR WILL BE PERMITTED TO OPERATE WATER VALVES ONLY WHEN THE PROJECT INSPECTOR ASSIGNED TO THE PROJECT IS PRESENT.

REVISIONS:

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wood.

GENERAL NOTES & KEY MAP

EQUUS WELLFIELD SPURLINE REPLACEMENT - MR20
GARY JANZEN, P.E. - CITY ENGINEER
CITY OF WICHITA

DESIGNED BY: EJB
DRAWN BY: JAN
CHECKED BY: ----
DATE: OCTOBER 30, 2020

ERIC J. BROWN LICENSED 18603 10-30-20 KANSAS PROFESSIONAL ENGINEER

PROJECT NO.
639020

SHEET NO.
02
OF 9

Last Saved by: alex.mckean Plotted By: Nesterlrod, Joseph Plot Date/Time: 10/30/2020 3:36 PM
File: L:\8275000373 Wichita Spurline\05_CAD\Sheets\Bid Package 2\KM-02.dwg